

BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2012-177-WS

In Re: Application of Tega Cay Water)	
Service, Inc. for Adjustment of Rates)	DIRECT TESTIMONY
and Charges and Modifications to)	OF
Certain Terms and Conditions for the)	PATRICK C. FLYNN
Provision of Water and Sewer Service)	
)	

Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.

A. My name is Patrick C. Flynn. My business address is 200 Weathersfield Avenue,
Altamonte Springs, Florida 32714.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I have been a Regional Director at Utilities, Inc. since 2003 and have managed as many as
22 subsidiaries of Utilities, Inc. including Tega Cay Water Service, Inc. My duties encompass all
aspects of utility operations in the Southeast Region of Utilities, Inc., which includes the states of
South Carolina and Florida. My responsibilities include the management of a staff of 115 people,
42 of whom are employed in South Carolina; the development and execution of operating and
capital budgets of 18 companies; supervision and support of all rate case and docket activity in my
region; the representative of the utility with respect to all regulatory activities and developer
agreements; and the management of a 132-unit vehicle fleet.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I am a 1978 graduate of the University of Virginia with a Bachelor of Arts degree in
Environmental Science. All told, I have 33 years of experience in the water and wastewater

1 industry. I have been a licensed water and/or wastewater treatment operator in the states of South
2 Carolina, Florida, Louisiana, and Maryland. From over 10 years, I was the general manager and
3 vice president of Hilton Head Plantations Utilities, Inc. here in South Carolina.

4 **Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION PREVIOUSLY?**

5 **A.** Yes, I have testified in rate cases before the South Carolina Public Service Commission, and
6 during my tenure with Utilities, Inc., I have been intimately involved in over 50 rate cases in the
7 last 12 years.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

9 **A.** The purpose of my testimony is to provide a description of Tega Cay Water Service's
10 operations and the capital investments made by Tega Cay Water Service since the test year ending
11 December 31, 2008, which the Commission adopted in the previous rate case.

12 **Q. WHAT IS THE HISTORY OF TEGA CAY WATER SERVICE?**

13 **A.** The Tega Cay community was developed in the early 1970's as a bedroom community near
14 Charlotte, North Carolina. After some years, the original developer went bankrupt. With the water
15 and sewer provider at that time experiencing significant financial difficulties, Utilities, Inc.
16 acquired those assets in 1991, established Tega Cay Water Service, Inc., and began providing
17 water and sewer service to the residents of the community. The system serves the oldest part of the
18 Tega Cay community situated on the shores of Lake Wylie, in York County, South Carolina. The
19 newer portions of the community are served by the City of Tega Cay.

20 **Q. HOW MANY CUSTOMERS ARE SERVED BY TEGA CAY WATER SERVICE?**

21 **A.** As of December 31, 2011, the company provided water service to 1,762 premises, and
22 wastewater service to 1,744 premises. Two commercial properties that receive water distribution
23 service from Tega Cay Water Service utilize septic tanks and there are 16 irrigation meters in

1 place.

2 **Q. PLEASE DESCRIBE TEGA CAY WATER SERVICE'S SYSTEM.**

3 A. Tega Cay Water Service purchases bulk water from York County, which in turn purchases
4 the water from the City of Rock Hill. The company's water distribution system includes an
5 elevated storage tower, approximately 30 miles of water main, an estimated 20 miles of water
6 service lines, 81 fire hydrants, valves, meters and appurtenances. The wastewater collection
7 system contains approximately 50 miles of gravity sewer mains and force mains, an estimated 20
8 miles of service lines, 19 lift stations and appurtenances, and approximately 1,100 manholes.
9 Tega Cay Water Service owns and operates two wastewater treatment plants, WWTP #2 and
10 WWTP #3, which discharge into Lake Wylie. A third wastewater treatment plant, WWTP #4, is
11 in standby mode. A map of the utility's service area with the wastewater collection system overlaid
12 is attached as Exhibit PCF 1 to this testimony.

13 **Q. PLEASE DESCRIBE THE CAPITAL IMPROVEMENTS MADE TO TEGA CAY**
14 **WATER SERVICE'S WATER DISTRIBUTION SYSTEM SINCE THE 2008 TEST YEAR**
15 **ENDED.**

16 A. Tega Cay Water Service's capital improvements to its water distribution system since the
17 end of 2008 include the replacement of capital assets that reached the end of their service life or
18 that failed such as meters, valves, service lines, and sections of water main.

19 **Q. ARE YOU FAMILIAR WITH THE CAPITAL IMPROVEMENTS MADE TO TEGA**
20 **CAY WATER SERVICE'S SEWER SYSTEM?**

21 A. Yes, capital improvements made to the Wastewater System since December 31, 2008
22 include the following projects with projects cost addressed in Steve Lubertozi's testimony:

- Emergency Repair of Bulkhead, WWTP #3, 2009
- Installation of UV disinfection equipment, WWTP #2 and #3, 2010
- Plant upgrades to meet Total Phosphorus limits, WWTP #2 and #3, 2010
- Additional wastewater treatment improvements, January 2011
- Collection System Audit, 2011
- Execution of DHEC-approved Corrective Action Plan, 2011-2012
- Replacement of three pickups, 2011-12

Q. WHY WERE THESE CAPITAL IMPROVEMENTS MADE?

A. Much of the capital investment made to the wastewater system since the end of 2008 reflects wastewater projects that were constructed in order to meet regulatory requirements or to replace existing assets. For instance, the South Carolina Department of Health and Environmental Protection (DHEC) issued revised National Pollutant Discharge Elimination System (NPDES) operating permits to Tega Cay Water Service in 2005 that required the utility to meet stringent nutrient limits when discharging treated effluent from its Tega Cay wastewater treatment plants into Lake Wylie. In order to meet those limits, especially the concentration limits for total phosphorus, the utility embarked on a multi-year effort to plan, design, permit, and construct the plant improvements that were necessary in order to meet those permit limits in a consistent and cost effective manner. In January 2011, the utility completed the last of those improvements, and since that time, the utility has discharged effluent with a phosphorus concentration that is well below the permitted maximum amount.

In February 2011 the utility entered into a Consent Order with DHEC in which the utility agreed to develop and execute a Corrective Action Plan (CAP) designed to identify and address deficiencies in its wastewater collection system in order to eliminate sanitary sewer overflows

(SSOs) from occurring. Before entering into the Consent Order, the utility completed a wastewater collection system audit that identified the location, duration, extent and causes of SSOs, analyzed the pumping capacity of each lift station and compared current capacity to the original lift station design capacity, initiated flow monitoring efforts at key locations to quantify the hydraulic profile of the collection system, analyzed the dry and wet weather flow patterns at each treatment plant, and from that, determined that the system was not experiencing elevated levels of inflow and infiltration. This audit then was used to develop the plan of operational changes and capital improvements that has resulted in a drastic reduction, if not total elimination, of SSOs within the utility's collection system. The elements of the CAP were prioritized so that those portions of the collection system that had a history of frequent SSOs were addressed first in order to reduce SSO activity as rapidly as possible. As an example, Lift Station #2 at the end of Marquesas Avenue and Lift Station #3 at the end of Point Clear Drive were totally revamped in order to address the poorly designed facility. Each station is now equipped with more energy efficient submersible pumps that will provide more reliable performance and thus reduce the need for frequent repairs. Each control panel was also replaced and charcoal filters installed on the vent pipe to minimize odors coming from the wet wells. The newly installed pumps provide an increase in pumping capacity over the original pumps, which allows the two pump stations to keep up with peak flow conditions generated by the customers in their vicinity.

Q. HAVE THE CAPITAL IMPROVEMENTS TO THE WASTEWATER SYSTEM HAD AN EFFECT ON TEGA CAY WATER SERVICES' OPERATIONS AND SERVICE?

A. *Wastewater Treatment Process*

Since the wastewater plant upgrades were completed in January of 2011 the effluent discharged from the plants has consistently met the stringent water quality limits imposed by DHEC. As a

1 result, the nutrient load placed on Lake Wylie as a function of plant performance has been
2 significantly reduced, benefitting the utility's customers by improving the quality of the water in
3 the lake. The utility's success with this effort was demonstrated by DHEC's issuance of the
4 renewed NPDES permits for each of the treatment facilities in April 2011 for a 5-year period.
5 Additionally, the utility was successful in reducing operating expenses as a result of the following
6 measures:

- 7 • optimized the use of the existing treatment tanks and structures by reducing plant
8 flow that was occurring during and after rain events,
- 9 • maximized the use of chemical addition to optimize the settling process,
- 10 • improved the biosolids dewatering process,
- 11 • improved operator training and competency.

12 ***Wastewater Collection System***

13 The improvements made to the collection system since the end of 2010 generated a drastic
14 reduction in the frequency, duration, and volume of wastewater associated with SSOs (Exhibit
15 PCF 2). There have been a total of nine SSOs since July 2011. The total volume of the spills was
16 less than 1,500 gallons (in six cases, less than 50 gallons) over the last 15 months with no
17 wastewater entering any surface water bodies including Lake Wylie. In comparison, there were 22
18 SSOs that occurred in the first six months of 2011. The utility's staff responded promptly in each
19 instance to contain the spill and clean it up, and all SSOs were promptly reported to DHEC staff,
20 the City of Tega Cay, and the Catawba Riverkeeper Foundation. The system is in full compliance
21 with DHEC's rules and regulations. The utility has met the deadlines contained in the
22 DHEC-approved CAP and will continue to carry out its operation, maintenance and repair activity
23 going forward in order to further improve the day to day performance of the collection system.

Water Distribution System

While no large capital projects were completed in the water distribution system, the utility completed a number of operational activities recently including the thorough inspection of each of the 81 hydrants in the system to verify that all were fully operable. All were found to be in proper operating condition. Each hydrant was also flow tested to document the flow rate available at each location and then painted. The utility held preliminary discussions with the City of Tega Cay regarding the installation of eight additional hydrants in specific locations that were identified by the City's fire department. Tega Cay Water Service is supportive of such efforts provided a mutually agreeable funding mechanism can be established for this objective.

Additionally, the utility carried out a periodic flushing program on dead ends of water lines in order to maintain adequate chlorine residual throughout the distribution system. However, because Tega Cay Water Service purchases potable water from York County, it has no treatment facilities of its own and thus has limited means of impacting water quality within its system. A flushing program has minimal likelihood of improving water quality other than to increase chlorine residual.

Q WHAT ARE SOME OF THE OTHER ACTIONS THAT TEGA CAY WATER SERVICE HAS TAKEN TO IMPROVE ITS SYSTEM'S OPERATIONS AND ENSURE ENVIRONMENTAL COMPLIANCE?

A. Tega Cay Water Service has:

- Participated in discussions with Tega Cay Water Advisory Group, including DHEC staff and the Catawba Riverkeeper, to gather community input, develop an action plan, and set priorities regarding the development and execution of the Corrective Action Plan after being blessed by DHEC.

- Apprised the City of Tega Cay & Catawba Riverkeeper of every SSO event in a timely manner.
- Established a 2-man maintenance crew to improve lift station performance and reliability through execution of a preventive maintenance regimen.
- Initiated smoke testing of portions of the collection system
- Pressure cleaned and video inspected approximately 50% of the gravity sewer mains.
- Inspected 1,100 manholes including all those where SSOs had occurred. These inspections followed an industry standard inspection methodology so that inspections that occur in future years can be compared to the baseline conditions.
- Conducted flow monitoring in key locations.
- Upgraded pumping capacity, pump equipment, and pump controls at master Lift Stations 14 and 15.
- Upgraded Lift Stations 2 and 3 by modifying or replacing the lift station structures, which increased pumping capacity, replaced the control panels, and increased pumping efficiency.
- Created a web-based data site to allow mapping of asset information, tracking of improvements made to the collection system, planning of future activities, and reporting of activities.
- Installed automatic transfer switches at each treatment plant emergency generator to minimize the impact of loss of power on the treatment process.

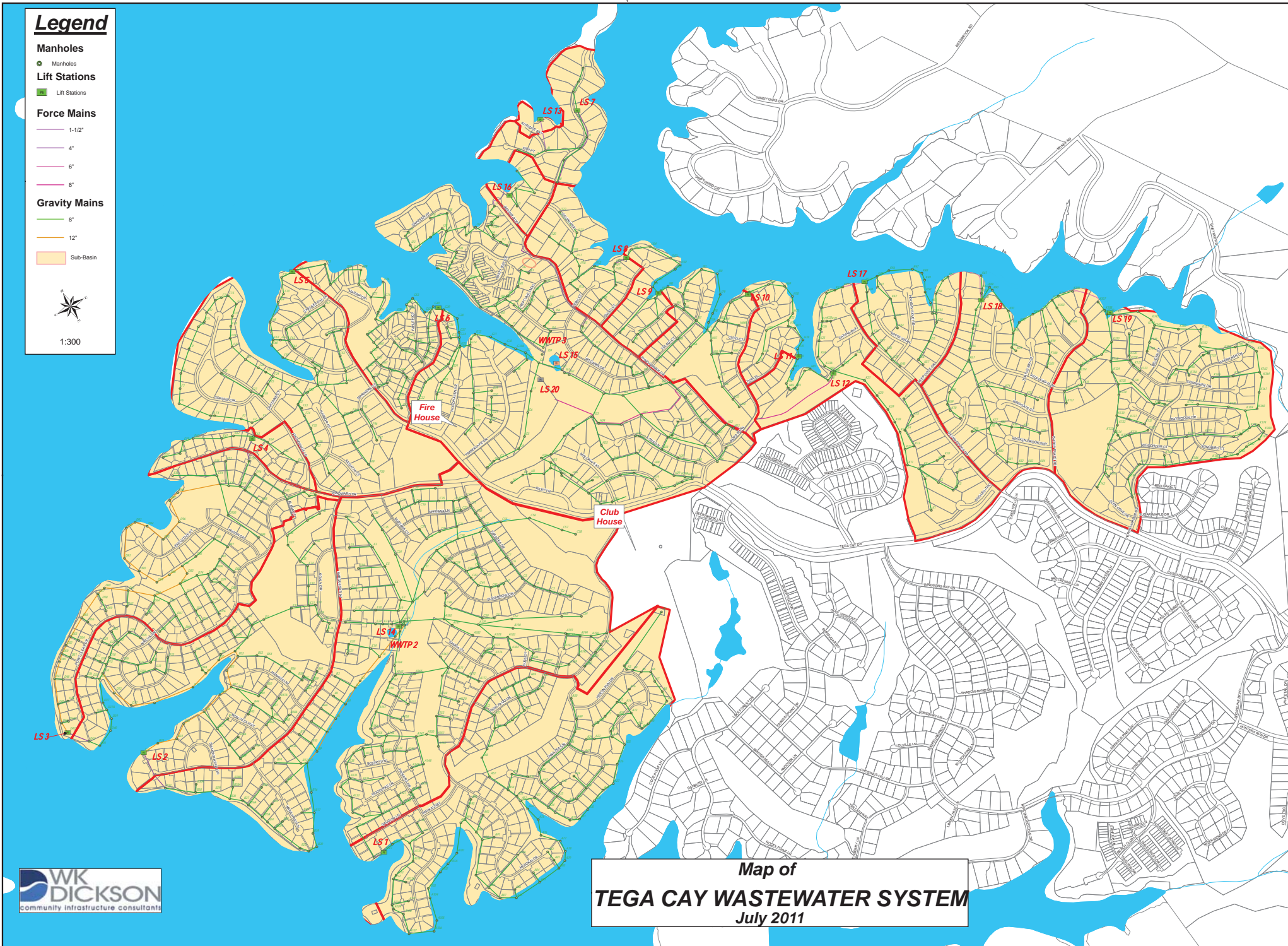
1 **Q. IS TEGA CAY WATER SERVICE ASKING TO CHANGE ANY PROVISIONS IN**
2 **ITS WATER AND SEWER TARIFFS OTHER THAN THE MONTHLY CHARGES FOR**
3 **SEWER SERVICE, AND THE BASE FACILITIES AND COMMODITIES CHARGES**
4 **FOR WATER SERVICE?**

5 **A.** Tega Cay Water Service is applying to increase its yearly charge for water service for a fire
6 hydrant from \$117.23 per year to \$135.48 per year. Tega Cay Water Service is not asking to
7 change any other charges for items such as tap fees, reconnection charges, or notification fees,
8 from the ones previously approved by the Commission in Order No. 2010-557 in Docket No.
9 2009-473-WS.

10 **Q. Does this conclude your testimony?**

11 **A.** Yes it does.

EXHIBIT PCF 1



Tega Cay Water Service

Sanitary Sewer Overflow Log, 2011-12

Year/Date	Manhole # or location	Amount (gallons)	Cause of SSO	Reported to SC DHEC	Service interruption	Number of customers affected	Description
2011							
1/5/2011	MH B-38	<50	roots and grease	Yes	No	0	Did not reach lake or stream
1/14/2011	MH F-42	<1000	roots or grease	Yes	No	0	Flowed into small stream going to lake
1/19/2011	MH I-70	<100	roots and grease	Yes	No	0	Did not reach lake or stream
1/24/2011	MH D-43	unknown	heavy rains	Yes	No	0	Unknown
2/9/2011	MH A-56	<100	blockage in main	Yes	No	0	Did not reach lake or stream
2/15/2011	MH I-28	<200	blockage	Yes	No	0	Flow entered the lake
2/24/2011	MH C-29	1000	roots	Yes	No	0	Flow entered a small stream
2/28/2011	2092 Diamond Head	10	roots in lateral	Yes	Yes, 3 hours	1	Back up in customer's basement
3/1/2011	WWTP #2	<100	electrical problem and high flows	Yes	No	0	Did not reach lake or stream
3/7/2011	3122 Point Clear	<50	roots and grease	Yes	No	0	Did not reach lake or stream
3/14/2011	4100 Marquesas	10-20	roots and grease	Yes	No	0	Did not reach lake or stream
4/6/2011	behind 2600 Marquesas	25	roots and grease in lateral	Yes	No	0	Did not reach lake or stream
4/9/2011	16160 Tana Tea	5	roots and grease	Yes	Yes, 3 hours	1	Back up in customer's basement
4/16/2011	9104 Pitcairn Dr	10	roots and grease	Yes	Yes, 3 hours	1	Blockage in main caused sewer to back up. Sewer leaked around base of customer's toilet and damaged ceiling tiles in basement
4/18/2011	WWTP #2	200	drain line not capped	Yes	No	0	Sludge spill at WWTP. Did not reach lake or stream.
4/22/2011	3024 Point Clear	25	roots and grease in lateral	Yes	Yes, 4 hours	1	Back up in customer's basement
5/18/2011	MH 31-32, 4159 Koala Circle	<500	roots and grease	Yes	No	0	Did not reach lake or stream
5/23/2011	1062 Woodlake Section 1	<50	blockage in main	Yes	Yes, 20 hours	1	Blockage at tap caused back up in customer's basement
5/24/2011	3031 Point Clear	100	blockage in TCWS portion of lateral	Yes	Yes, 2 days	1	Customer installed a cleanout in order for us to find the cause of the blockage
6/19/2011	MH H-27 behind 6010 Lanai Lane	<500	grease blockage	Yes	No	0	Did not reach lake or stream
6/23/2011	MH H-25 6013 Lania Lane	<50	root ball in manhole 25 blocking main	Yes	No	0	Did not reach lake or stream
6/27/2011	11096 Pheasant Run	<500	contractor was jetting main when SSO occurred at broken sewer tap on the 8" main	Yes	No	0	Did not reach lake or stream

Completed collection system audit.

7/25/2011	3058 Point Clear	~25 gals of sand	contractor temporarily placed sand from manhole on ground	Yes	No	0	Did not reach lake or stream
8/20/2011	MH H-35	<200	blockage in main	Yes	No	0	Did not reach lake or stream

Tega Cay Water Service Sanitary Sewer Overflow Log, 2011-12

Year/Date	Manhole # or location	Amount (gallons)	Cause of SSO	Reported to SC DHEC	Service interruption	Number of customers affected	Description
12/8/2011	27017A Windjammer Dr.	1/4	water splashed out of toilet on wall as main was being jetted	Yes	No	0	Line holding water being cleaned by jet truck caused a small surge to go into customer's plumbing and splash out of toilet
12/13/2011	2157 Marquesas Ave	10	root ball at tap. SSO came out of cleanout	Yes	No	1	Did not reach lake or stream
12/22/2011	11057 Holiday Cove	<500	customer's lateral was broken at cleanout by fallen tree in back yard, customer's responsibility	Yes	No	0	Did not reach lake or stream

2012

2/21/2012	2064 Marquesas Ave.	30	blockage in sewer main between MH's B-26A and B-27	Yes	Yes, 3 hours	1	Back up in customer's basement
3/29/2012	MH C-31 near 5041 Suwarrow	<500	deflated basketball lodged in sewer main, vandalism or intentional act to harm collection system	Yes	No	0	Did not reach lake or stream
5/2/2012	MH A-197	3	blockage in sewer main	Yes	No	0	Did not reach lake or stream
9/26/2012	LS 19 valve vault	5	gasket leaked at flange fitting in valve vault	Yes	No	0	Did not reach lake or stream

Updated 10/1/2012